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Original

MECHANICO-THERAPEUTICS.

INDICATIONS AND APPLICATIONS.

BY T. J. MCGILLICUDDY, M. D.,

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In a brief sketch of some of the principles involved in mechanico-therapy, with its indications and applications, it is impossible to do more than to bring forward a few of the more salient points. The general conception of remedial agents among the laity, and we might also say to a great extent in the profession, is drugs, and drugs only. It is my belief that hydrotherapy is far more important than pharmacology, and that mechanico-therapy is of still greater value than either for chronic ailments. By mechanico-therapy the health is attained or enhanced by the curative principle which is contained in exercising the muscles, both voluntary and involuntary, and also by specific mechanical operations upon different parts of the body. The treatment is both mechanical and manual, and by it the desired end is obtained in a perfectly natural man-

ner. By this means, in addition to dietetic treatment, there is brought about a healthful activity of the vital functions and a harmonious physical development, and this is accomplished by the law of cure in chronic ailments through growth and development, and is the result of the systematic exercise of the muscular system, which includes about all the body except the framework (bones and connective tissue), the padding (fat) and the nervous mechanism. It is simply the application of the physiologic law that exercise strengthens, and that all organic development is that of gradual growth. The exercise is adapted from the beginning to the strength, and is increased only by degrees in proportion to the increase of strength. If the exercise exceeds the strength, overexertion follows, which brings weakness and a consequent loss of

strength. We increase daily the amount of work until the same amount of fatigue is experienced each day.

By specializing mechanico-therapy we can give medical treatment, which physicians generally cannot always administer conveniently in their private offices. The specialist here stands in a measure in relation to physician and patient as an important adjunct to the ordinary drug treatment. The value of mechanical treatment in chronic disease is thoroughly well known in the Germanic countries. In France and Italy they recognize the great advantages derived from it, and physicians in this country are gradually becoming acquainted with its wonderful power, although the practical utilization of it is to-day in its infancy in the United States. Many who are unacquainted with the method of treating disease might consider it inferior to either that of drugs or hydrotherapy, inasmuch as its limits are confined to the cure of chronic diseases. It is, however, really preventive medicine, as by its improvement of the general health, it tends to prevent acute, as well as chronic, disease.

If one were asked what is included in mechanical treatment, it might be stated that mechanico-therapeutics include the treatment by the physicians of the sick (more especially those suffering from chronic internal diseases), the feeble, the convalescent and persons needing to counteract the effects of sedentary occupations; the application of active and passive movements, and manual or hand treatment. Mechanical treatment embraces a system of movements adapted to diseased conditions of the body, and depends upon the theory that if exercise is necessary to the maintenance of health, specific exercises, among other forms of treatment, are especially needed to restore healthy action to the bodily functions.

The foundation principles upon which we depend to obtain benefit for the patient are:

First—Stimulation by imparting activity and vitality to the tissues, and thus promoting metabolism.

Second—Invigoration by increas-

ing the enervation and vigor throughout the body, re-establishing the natural functions.

Third—Derivation by acting on the blood-vessels through their nerves, and where there is a morbid condition of the circulation, congestions are often removed and a normal condition established.

Mechanical treatment may influence any portion or organ of the body, and the strength of the treatment may be modified in degree as required. Through excitation or stimulation of the nervous system absorption is increased, and metabolism is enhanced. The circulation, both venous and arterial, is made more active, and thus the heart is thus relieved of some of its work.

Between ordinary gymnastics and mechanical and manual treatment, under the guidance and supervision of a competent medical practitioner, there is this great difference: That whatever beneficial results that may happen to be obtained from ordinary gymnastics are wholly corporal, and are without any scientific, anatomical or physiological foundation as a result, but rarely does benefit follow. While frequently manifest injury results from over-exertion or from under-exertion, the time is wasted. Calisthenics as ordinarily employed by laymen were never intended to cope with internal diseases. Medical gymnastics not only cure external malformations, such as special distortion, but many internal diseases. We must therefore carefully differentiate between the purposes for which movements are employed. They may be classified as hygienic or as medical.

School calisthenics are a good example of the former, while medical gymnastics belong only to the province of the intelligent medical specialist, being the principal agent in the cure of many chronic ailments or a most important accessory to other remedies.

The following are some general directions and explanations for patients while taking the mechanical and manual treatment:

First—While you are under the treatment you should remember that to obtain the full benefit a great deal

will depend upon your regularity of attendance and intelligent endeavor to carry out instructions. The general aim of the treatment is to develop the body gradually and harmoniously. This requires time and continuous application.

Second—Every morning, before breakfast and after a special exercise, take a fine showerbath or a sponge bath containing a handful of salt to the basin of water. Then rub briskly with a coarse towel.

Third. Carefully follow the dietetic prescription, eating as much of the simple yet nutritious food recommended as you can.

Fourth—The exercises are divided according to the different parts of the body, such as the arms, legs, head and trunk. These must be equally strengthened by the movements, so as to be kept in harmony. This enables us to undergo bodily fatigue, to endure sudden changes and extremes of temperature.

Five.—The exercises and manual treatment should never immediately follow a full meal. An hour or two should elapse. A light repast is sometimes advisable in weak patients.

Sixth—The breathing should be free, deep and regular. The whole attention should be given to the exercise. It should be carried out in the order prescribed, and no great effort should be made during any of the movements.

Seventh—The movements of the head should be executed slowly, while those of the arms, legs and trunk may be made more quickly.

Eighth—It is often desirable with weak patients to rest for a moment between the different exercises, and to avoid severe or prolonged exertion before or after the treatment.

Ninth—The clothing should be very loosely worn, the weight of the skirts being carried on the shoulders and not upon the hips. This is not imperative, but the throat, waist, arms, chest and abdomen should be unconstrained and without pressure.

Tenth—The physician should carefully note the effects and duration of the movements. Cardiac and respiratory auscultation should be practiced.

1. In the treatment movements for derivation of the blood to extremities may be employed as in active extension and flexion of the upper and lower extremities.

2. Movements may also be employed drawing a greater flow of blood to the abdomen and to stimulate the absorbents and arterial and venous circulation by manual treatment.

3. Active or passive rotation of the trunk at the waist is useful in many internal diseases, causing muscular activity and a greater flow of blood to the abdomen.

The curative power of mechanical treatment depends greatly upon the fact that the work, as before stated, being under medical control and careful supervision, the laws of anatomy and physiology are followed, instead of the ignorant surmises of nurses, and Swedish and Prussian professors of gymnastics. From intelligent medical work great benefit can be derived from the various processes, not only in preventing and alleviating many of the ordinary chronic diseases of the body, but especially in treating those muscular deformities which are now handed over to the orthopedic surgeon. One thing is clear, that under proper medical care mechanical treatments can do no harm, but often prove most serviceable in chronic ailments. They occupy the patient's body and mind for some length of time, and are thus advantageous to those who cannot engage in active out-of-door employment of a healthful kind. It is almost a rule that the majority of delicate persons who become members of a gymnasium or join an athletic club are extremely apt to overexert themselves.

The department of mechanico-therapy should embrace mechanical treatment, manual treatment and hydrotherapy—water often used for its mechanical effects. The affections to be treated are those which are dependent on malnutrition, such as anemia, chlorosis, diabetes, obesity, neuralgia, neurasthenia, hysteria. Mechanico-therapeutics are of value in cardiac and circulatory disorders, bronchitis, asthma, phthisis and in chronic gastric and intestinal derangements. In fact, many diseases

coming under the division commonly designated internal medicine.

The active movements, such as have for their direct object the exercise and development of the muscles, may be divided into four groups:

- A. Active arm movements.
 - B. Active leg movements.
 - C. Active trunk movements.
 - D. Balancing exercises.
- A. The active arm movements:
 1. Arm raising, shoulder raising.
 2. Arm sinking and bending.
 3. Arm raising and stretching.
 4. Drawing the arms together (adduction).
 5. Drawing the arms apart (abduction).
 6. Throwing the arms (circumduction).
 7. (a) Arm rotation.
(b) pronation and supination of arm.
 8. Forearm flexion.
 9. Forearm extension.
 10. Hand flexion and extension.
 11. Finger flexion and extension.
- B. Active leg movements:
 1. Hip flexion.
 2. Hip extension.
 3. Hip knee flexion; hip raising.
 4. Hip knee extension.
 5. (a) Leg adduction.
(b) Leg abduction.
 6. Leg turning.
 7. Knee flexion.
 8. Knee extension.
 9. Foot flexion and extension.
 10. Foot rotation.
- C. Active trunk movements.
 1. Trunk bending forward (seated).
 2. Trunk bending forward (lying).
 3. Trunk stretching (standing or seated).

4. Lateral flexion of trunk.
5. Trunk rotation.
6. Pelvis rotation.
7. Neck extension.
- D. Balancing movements.
 1. Trunk balancing.
 2. Trunk rotation, seated sideways.
 3. Trunk rotation, seated astride.

PASSIVE MOVEMENTS.

- E. Passive movements.
 1. Passive hand flexion and extension.
 2. Passive radical and radial flexion of hand.
 3. Chest expansion.
 4. Passive pelvis rotation.
 5. Pelvis lifting.

MECHANICAL OPERATIONS.

- F. Vibration.
 - G. Percussion.
 1. Leg percussion.
 2. Trunk percussion.
 3. Head percussion.
 - H. Kneading.
 - I. Friction and rolling.
- Measurement or anthropometric apparatus.
- Two dynamometers.
- Tape measure.
- Spirometer.
- History—Book and for record of surgical examination by anthropometric measurements.
- Record and history book.
- A point which I wish to especially emphasize is that the passive and resisted movements are especially applicable to very weak patients and cardiac cases, when the disease is at all advanced.

TUBERCULOSIS OF THE MIDDLE EAR.*

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Voltolini (1) a few years ago first called attention to the tuberculous nature of certain morbid processes existing in the middle ear of otherwise healthy individuals. Previous to the discovery of the significance of the tubercle bacilli as a pathogenic factor in tubercular processes these middle ear affections presented no unusual features and were treated in the usual way, as were non-tuberculous affections. The universality of the tubercle bacilli, its presence in all locations inhabited by man and its liability to produce morbid changes in all the tissues of the body, renders a study of tuberculosis always of paramount interest. Not only do the tissues of the viscera suffer from the ravages of this affection, but the special organs, and particularly the eye, are constantly involved in the tubercular changes common to the disease. The auditory apparatus is much less frequently the seat of the affection, but when the middle ear becomes infected with the tubercle bacilli, not only do local changes take place destroying the auditory apparatus, but destruction of the adjoining tissues occur and life itself is threatened on account of the highly important organs destroyed by the morbid process.

Tuberculosis of the middle ear may be primary or secondary, the primary form being very rarely observed, and then from the extreme difficulty of eliminating the presence of tubercular deposits in other portions of the economy, it becomes a matter of hesitancy to decide as to the diagnosis being essentially accurate. The obvious difficulties incident to the localization of a primary

deposit of the tubercle bacilli precludes a study of its etiology here, as it seems impossible to find a true case reported with sufficient evidence to warrant the title. The secondary involvement of the ear, the tympanic cavity being practically the first portion of the aural chambers to be affected, has hitherto been considered as occurring quite rarely, but recent investigation has given enough evidence to warrant the statement that tuberculosis of the middle ear is much more frequently a complication of the affection in other portions of the body than is generally supposed. In the lower animals, especially in guinea pigs, tuberculosis of the middle ear, both primary and secondary, is more or less frequent. In the experimental production of tuberculosis in these animals the middle ear is the part involved in numerous instances. One reason for the seeming neglect of the study of tympanic cavity in the tubercular process is due to the comparatively small area involved in relation to the serious visceral or general effects of the disease, as usually by the time the ear is attacked the pulmonary or visceral involvement is of such paramount gravity that the aural phenomena are considered as insignificant.

The tubercle bacilli may be conveyed to the ear in three ways, first, through the Eustachian tube; secondly, by the blood vessels and lymphatic system, and finally, from the external auditory canal through a previously or newly formed perforation in the membrana tympani. The two latter methods of infection are relatively infrequent and will not here be considered, as they present no essential features differing from infection through the tube. In practically all cases of tubercular infec-

*Read at the fifteenth annual meeting of the New York State Medical Association, held at New York, October 18, 1898.

tion of the tympanic cavity the contagium is conveyed to the part designated via the eustachian tube; therefore a study of this route will enable one to sufficiently appreciate the changes in this locality. Before the ear becomes involved the vault of the pharynx undergoes tubercular change, commencing with an inflammatory condition of the pharynx, with soft swelling of the adenoid tissue and mucous membrane and subsequent cheesy degeneration of the lymphatic glands in the immediate neighborhood. From here the infection is conveyed to the tympanic cavity by the ciliated epithelium of the eustachian tube, infecting this canal at various points along its course.

As the parts tympanica become involved proliferation commences, rapidly followed by the appearance of small, gray, tuberculous nodules in the inflamed and swollen parts, constituting the so-called tuberculous osteomyelitis of the pars tympanica. (2) During the progress of the mucus containing the tubercle bacilli along the eustachian tube various prominent points become infected and typical tubercular changes take place. The most characteristic signs of the disease are found at the ostium tympanicum and at the isthmus. This preference, as it were, for these portions of the tube can be explained by the movements of the ciliated epithelium carrying the infective material outward from the pharynx to the middle ear; the isthmus from its projecting into the lumen of the tube acting as a resting place for portions of the mucus, while the entrance of the tube into the tympanic cavity affords still more of an irregular surface, and therefore is more liable to suffer from the infecting material remaining in the inequalities of the mucous membrane.

Shortly after the pars tympanica becomes the seat of the tubercular process small, miliary nodules occur in the inflamed lining mucous membrane of the tympanic cavity. The tubercular formations arising from the miliary tubercles increase in size and gradually encroach on the limited space of the middle ear, finally filling up this cavity, destroying the

mucous membrane and dislocating the ossicles, which in a short time become necrosed. The entire pars tympanica is converted into new growths and the disease begins to involve the adjacent bony walls and antrum, extensive destruction taking place, the mastoid and internal ear being destroyed or else the patient succumbs to the general tuberculosis present. At an early period the disease invades the eustachian canal, destroying its bony wall and depositing tubercular nodules in the interstitial connective tissue of the facial nerve, separating the nerve into its component fasciculi and destroying it. The inner ear being destroyed the disease progresses until brain involvement takes place.

Aural tuberculosis may occur at any age from childhood until advanced life; the comparatively mild cases where there is little or no evidence of general tubercular lesions, but simply associated with glandular enlargements and the so-called strumous diathesis, occur most frequently in the child between the age of two and twelve years. From recent studies of the tympanic cavity in tubercular individuals authorities are being more and more convinced that this organ is involved in a greater number of cases than was commonly supposed. Habermann (3) found tubercle bacilli in the purulent discharge from the middle ear in five of our 24 individuals, all of whom finally succumbed to tuberculosis, while Nathan (4) in a bacteriological study of the discharges in the ordinary form of suppurating chronic otitis found the tubercle bacilli present in 12 out of 40 cases. In all of the cases in which this micro-organism was discovered, with the exception of three, marked evidences of pulmonary tuberculosis were present, while in the three cases presenting no evidences of general tuberculosis, carious degeneration of the bone of the tympanic cavity had progressed to a considerable degree. Impairment of hearing in tuberculous subjects, with or without physical evidences of middle ear infection, has been found present in 28 cases out of 294, thus making a percentage of 2.4 as the average of infection

of the auditory apparatus in tuberculous individuals. Milligan, (5) who has made a careful study of this subject, both clinically and experimentally, says that primary tuberculosis of the middle ear is much more frequent than is commonly supposed. We hesitate to accept this statement, however, for the reason stated in the previous part of this paper.

The course of the morbid changes after the tubercle bacilli have been deposited in the mucous membrane of the tympanic cavity may, according to Barnick (6) be either acute or chronic, the former being rare and associated with general military tuberculosis, the changes occurring so rapidly in the body that the aural involvement is not discovered except in the post-mortem examination, while the chronic form is common and may be modified by the natural resistance of the parts, or conversely by the virulence of the pathogenic organism acting as the etiological factor. Most frequently this form resembles an ordinary non-specific otitic suppuration; it runs its course without pain, but, unlike the regular forms of suppuration of this region, it rapidly destroys the tympanic membrane by breaking down the small, military nodules which are deposited in the separate layers of the drum membrane.

The symptoms vary with the progress of the disease and the amount of destruction present. The first indication of the affection is the sudden appearance of pus in the external auditory canal, without any evidences of disease being present previous to the discharge. On examination the membrana tympani will be seen to be perforated and no other signs of inflammatory action will be discovered, the character of the affection only being ascertained by the discovery of the tubercle bacilli in the pus, or the rapid development of general or pulmonary tuberculosis subsequent to the original aural involvement. In general the symptoms are those of a non-specific suppurative inflammation of a low grade, with caries of the intra-tympanic bones. Subjective symptoms are infrequent, the purulent discharge alone directing the attention

of the patient to the ear disease. The absence of subjective symptoms is due to the insidious nature of the affection, the lack of pain depending upon "the freedom from reaction possessed by the phthisical organism."

Examination of the middle ear in a few cases will elucidate the nature of the affection, while in the majority of cases the objective signs indicate what is apparently the common form of chronic suppuration. The perforation in the membrana tympani is possibly somewhat characteristic; it is circular in outline, the edges are thick and everted, and instead of the congestion of the manubrial plexus and bright red color seen in ordinary myringitis with perforation, the drum membrane is blueish-white in color, glossy and edematous, the color and general appearance much resembling the condition seen over the arytenoid cartilages in tubercular laryngitis. More or less characteristic is the presence of two distinct perforations in the drum membrane. This double perforation is due to the deposit and breaking down of separate military tubercles in the drum head, giving it the appearance as if riddled with shot. When the ossicles are involved the adjacent bony structures are quickly attacked and the entire mastoid may break down at a very early period. Associated with these local symptoms is the general condition of the patient, so well known as to require no mention here, but as an additional symptom of value when present, is enlargement of the periauricular glands, these being frequently tubercular before the aural affection makes its appearance.

The nodules present in the middle ear are about the size of a mustard seed, scattered irregularly over the entire mucous membrane; in the early stage they are of a constant size, round in shape and have a sharply defined border. When touched with a probe they are found to be hard and resistant, not giving way to ordinary pressure, and are readily dissected out from the tissue in which they lie embedded. As the disease progresses still further the tubercles slightly increase in size and are greatly augmented in

number. The cells forming the tubercle also rapidly increase in quantity, shutting off the blood supply, and ulceration occurs. The tubercular process may remain latent in the aural cavity for a considerable time without apparently causing serious mischief, but complications, or rather extensions of the disease, usually occur sooner or later and presage a fatal termination.

Haenel (7) has reported a rare complication, a case of incipient rupture of both the membranes separating the middle from the internal ear, as a result of tubercular caries of the tympanic cavity, both round and oval windows being destroyed, while Bezold (8) says that hyperplasia of the bones of the middle ear and of the footplate of the stapes may also occur. Somewhat doubtful is the production of general tuberculosis by a previously existing otitis media suppurativa, but as high an authority as Von Troltsch (9) claims such to be a possible result, although the connection is as difficult of proof as it is probable on general grounds.

Early diagnosis of tubercle of the tympanum is of great importance, as prompt remedial measures offer a chance for removal of the diseased area in a limited number of cases.

It is rarely that a diagnosis of the tubercular nature of the aural discharge can be made from mere inspection of the membrane and middle ear, it is necessary not only to carefully consider the local affection, but search must be made for the tubercle bacilli, and much information can be gained from a microscopical study of a portion of the diseased tissues. Should tuberculosis be suspected and examination fails to discover the specific bacteria, it does not necessarily follow that the affection mentioned is not present in the tympanic cavity, as frequently it is necessary to make a number of examinations at intervals before the character of the disease is conclusively proven.

In practically all cases a microscopical examination for the suspected bacilli is necessary to accurately diagnose the condition, various methods for staining and differenti-

ating the bacillus are in vogue, but the following is useful in diagnosing tuberculosis of the ear. A minute amount of the pus removed from deep in the tympanic cavity with a sterile platinum loop, is smeared over a cover glass, then dried by passing over the flame of an alcohol lamp and placed in fuchsin solution. The solution containing the cover glass is now warmed until it begins to smoke, then with the cover glass remaining in it, is allowed to cool for an hour or two. The cover glass is then taken out and decolorized with dilute nitric acid and stained with malachite green, and is then ready for examination (10).

The prognosis is unfavorable as regards the hearing, complete deafness usually resulting from disorganization of the middle and destruction of the internal ear, and as the bone becomes involved the danger to life is greatly enhanced. In all cases therefore an unfavorable prognosis must be given. Should the tubercles be localized in the ear the operation seeking removal of the diseased area may be suggested, but must be undertaken with the understanding that rapid miliary tuberculosis of the entire system is apt to result. Locally the various remedies used in laryngeal tuberculosis may be tried. Chloride of zinc, iodoform and lactic acid are probably the best, especially the latter under cocaine anesthesia and following curettment of the diseased area. General remedies, as in tuberculosis elsewhere, are very needful, the patient being built up to withstand the ravages of the disease as far as possible.

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MENTALLY DEFICIENT CHILDREN.

BY KATHARINE COLLINS, M. D., Atlanta, Ga.

The subject which I bring before you for consideration is not a new one to you, and my excuse for presenting is that I believe the mentally deficient child has hitherto not engaged the attention of the general practitioner to the extent warranted by the needs of the case, and while it is to the specialist such cases must ultimately be referred, it still remains for the family physician to point the way.

My own personal contact with many children from all grades of society has led me to realize that a closer line should be drawn between the normal and the abnormal mind and special attention directed toward the latter, and such disposition made of them as to best promote individual happiness and insure public safety.

For the etiology and classification of these cases I have drawn largely from the writings of those who have spent years among the defective class and studied it in all its phases.

For the possibilities in the lines of improvement I give you the experience of others and my own observations.

The earliest efforts to instruct an idiot were made by Itard, of France, in 1800, on a boy found running wild in the woods. Essays, also, upon the subject were written by Voisin and Esquirol, but it remained for Seguin, a pupil of Itard and Esquirol, to make systematic and serious efforts to improve the condition of mentally deficient children.

His first experiments, in 1837, were with the inmates of the Hospital for the Incurables. Later he was appointed to apply his method to the children of the Bicetre.

Simultaneously with Seguin's work in France Dr. Saegert, in Berlin, and Guggenbuhl, in Switzerland, were making experiments along the same lines, but it was Seguin's great work, entitled "Traitement moral, Hygiene et Education des Idiots et des autres Enfant Arrieres," that laid the foundation for the emancipation of the imbecile class.

A few years later in England a small school for imbeciles was start-

ed; others soon followed, while in the United States efforts were being made to benefit the idiots by training them in connection with special schools for the deaf and blind.

Massachusetts was the first State to make specific provision for this class, by appointing a commission to investigate the number and condition of idiots in the State. Dr. Howe, instructor of Laura Bridgeman, was chairman, and the report of this commission led to an appropriation of \$2500 for the establishment of a school.

Other States soon followed the example set by Massachusetts, and at the close of 1895 sixteen States made special provision for 6000 mentally deficient children. The census of 1890 gives a total of 95,571 idiots and imbeciles, leaving 89,571 unprovided for.

England provides for 2700, and estimates a total of 4600.

Germany supports 29 institutions, together with the auxiliary schools or "Hulf Klusse," that are in connection with the public schools proper.

Switzerland, Norway and Denmark also recognize and make provision for these unfortunates.

Such in brief is the historical outline of this work as it has progressed in the countries mentioned.

The term "idiocy" is misleading, as it is so variously applied by different writers. Landon Carter Gray defines it as "a congenital condition of mental defect that is technically distinguished from that mental defect of later years which is known as dementia. The symptoms are those of lack of development, and this lack of mental development may vary very much in degree."

The term "idiot" seems in this definition to include all classes of mental deficiency, and to make it always congenital in its origin.

Charles K. Mills gives three divisions of this class: "Idiots, imbeciles and cretins." He considers idiocy as congenital or acquired in early life previous to the evolution of the mental faculties.

While the division into the above

classes is often confusing, the division as to time of acquisition is very definite, separating it entirely from those cases occurring in later life, such as dementia. Mills uses the terms imbecility and feeble-mindedness interchangeably.

Shuttleworth, of England, includes all grades under the term "mentally deficient," and groups them according to time of acquisition with a pathological subdivision. Like all classifications, it is more or less imperfect, but it gives a convenient working outline and is adopted by many institutions.

The first division is that of congenital origin, under which head we have the microcephalous, hydrocephalous, mongol, scrofulous birth palsies, cretinism and primary neurotics.

These forms may exhibit any degree of mental defect from the low grade idiot to the merely backward child, according to the extent to which the primary cause acts.

To enable you to understand the table better I will call your attention to a few points in each case, but for a fuller description will leave you to refer to any good text book upon the subject.

The microcephalic in its extreme form is characteristic of low grade idiocy. An attempt was made at one time to establish in these cases 17 inches as a limit of circumferential measurement; such a limitation seems not to be wholly satisfactory, though Fletcher Beach states that heads measuring less than this never show any signs of intelligence. The diagnosis, however, of this condition is not based upon measurement alone; the characteristic receding forehead, pointed vertex, flattened occiput, with the bodily peculiarities, will not leave one long in doubt as to which class the subject belongs.

Hydrocephalous is occasionally congenital and does not always produce mental enfeeblement. Distinction must be made between this condition and rickets; in the latter the fontanelle is depressed and the head elongated in the antero-posterior diameter, while in the former the fontanelle is raised and the crossed diameters more nearly approximate.

In the Mongol or Kalmuc type, so named from a strong resemblance to these races, the skull is short, the transverse and longitudinal diameters nearly equal, the frontal and occipital planes are almost parallel; the tongue is transversely fissured and has hypertrophied papillae; the eyes are frequently set obliquely. Autopsies in these cases show the brain to be made up of coarse convolutions.

Shuttleworth and Beach agree that the Mongol variety is often the last born of a long family with a tubercular family history, and it is not unusual for them to die in early life of tubercular affections.

Cretinism, which is characterized both by the lack of physical and mental development, when it occurs in utero results in death to the fetus, but in some cases the congenital taint is developed after birth. These cases are recognized by the low stature, large head in proportion to the body, flat on top, narrow in front and spreading out toward the sides; the hair is coarse and bristle-like, the forehead low, the skin loose and rough.

The thyroid gland is absent and fatty tumors are formed in the supra-clavicular region. The Cretin is usually of a low grade of mentality, but not vicious; they have rather an affectionate disposition, can recognize their friends, and seem in some cases to understand a little of what is going on about them.

According to the experiments of Dr. Telford Telford-Smith, of England, improvement has followed the administration of the thyroid extract in cases of sporadic cretinism, and reversion to the former condition occurs upon withdrawal of the remedy. Removal from the low valleys, where these cases occur, to higher altitudes seems to have a modifying influence.

Birth palsies will be considered under traumatic injuries to the newborn.

Of the next division little need be said, as it is a familiar condition.

Dr. Ireland claims that two-thirds of the idiots show scrofulous diathesis; strumous glands, tubercular disease of the joints and serous mem-

branes are frequent accompaniment of mental defection.

The next division is the primarily neurotics. I am rather inclined to take issue with some authors upon this point. My experience leads me to believe that while mental enfeeblement may show itself in the child where parents are neurotics, yet there is oftener a condition of instability of the general nervous system accompanied by a high grade of mental development. Should, however, this neurotic state be grafted upon an epileptic, tubercular and other depraved condition, then mental enfeeblement of any degree may result.

The second general class, Developmental, is where a latent or unstable condition of the central nervous system exists, congenital in origin, but not exhibited until precipitated by some crises.

Convulsions during the first or second dentition and the changing conditions of puberty often mark the downward path of an already tottering mind. Epileptic seizures frequently do not begin until the sixth or seventh year, and up to that age the child may seem as bright as other children.

In those cases of inherited syphilis the characteristic lesions may occur early, but mental deterioration rarely begins before the second dentition.

The third general class consists of those cases which are non-congenital, and under this head we have traumatic, post-febrile shock, and toxic cases.

Traumatism may act at the time of birth or later. A severe fall in early infancy, producing injuries resulting in pressure upon the brain or causing meningeal hemorrhage, may result in degeneration of the brain substance.

As to traumatism at the time of birth, much has been said and written. Dr. J. Madison Taylor, of Philadelphia, several years ago carefully collected the opinions of many specialists regarding the number and extent of cerebral injuries due to forceps deliveries. I will give briefly some of the replies he received:

Jacobi writes as follows: "That

while forceps may do injury by the fact that the very pressure of the blade narrows the canal, but the greater danger arises from the prolonged labors."

Drs. Sarah McNutt, of New York; Fullerton, of the Woman's Hospital, Philadelphia; Martin, of Ann Arbor; Davis, Sinkler and Hirst, of Philadelphia, look upon prolonged labors as the more fruitful source of these cerebral injuries in the newborn.

Dr. William Goodall, however, is quoted as follows: "My experience would lead me to the belief that the great majority of cases of cerebral palsies are due to acute, unequally distributed pressure of the forceps upon the child's head, rather than the prolonged but equally distributed pressure in an unaided labor."

Dr. Joseph Price states that during his stay at Preston Retreat he did not have a direct or remote cerebral sequela of parturition in infants, though there were many complicated labors, some with contracted pelvis. Dr. Price fiercely denounces the promiscuous and unskilled use of the forceps.

Post-febrile conditions producing meningeal inflammation may cause more or less deterioration or arrest of development. Shock in the form of fright is sometimes assigned as the origin of mental defect, and where it is prolonged may, by interference with nutrition of the nerve centres, bring about trophic changes more or less permanent in character.

Toxic cases are seen in very young children that are subjected to long-continued use of alcohol or narcotics.

Instead of going into a long discussion of the etiology of mental deterioration I will run over a few tables that will, I think, give you a better idea of the subject than any words of mine. The first is:

Beach and Shuttleworth, Royal Albert Asylum, 1200 cases.

I. CAUSES ACTING BEFORE BIRTH.

Phthisis	291
Mental strain	191
Insanity	182
Intemperance	159
Syphilis	16
Illegitimacy	23

II. CAUSES ACTING AT BIRTH.

Primogeniture	228
Protracted pressure	57
Instrumental delivery	39
Premature birth	37

III. CAUSES ACTING AFTER BIRTH.

Infantile convulsions	391
Acute infectious fevers	119
Head injury	99
Epilepsy and cerebral affections.	57

Dr. Pearce, of Philadelphia, has, from the statistics of many institutions, compiled several very valuable tables. I will only quote the one giving the causes assigned for the mental enfeeblement.

CONGENITAL.

	Pater.	Mater.
Imbecility	16	21
Inebriety	10	11
Nervousness	17	—
Epilepsy	3	30
Hysteria		5
Shock		25
Insanity		7
Overstraining during gestation		40
Syphilis		7
Phthisis and consanguinity.		17

ACQUIRED.

Accident	75
Abuse and neglect	10
Infantile disease	95
Sunstroke	5
Instrumental delivery	25

The incongruity between the number ascribed to imbecility, alcoholism or any other cause that would reflect discredit to the parents, and the number ascribed to overstraining in this direction. Punishment marked in these tables, and allowance must be made accordingly.

A few words as to the moral imbecile before taking up the disposition of the mentally deficient. He belongs to a class apart from the others. Frequently the mental powers are good, but totally lacking in moral sense and not amenable to any teaching; in this direction. Punishment and persuasion alike fail and he has no moral sense to appeal to. He is the despair of his parents and teachers, and his influence among other children is bad. Lifelong detention is at present the only disposition that can be made of such cases.

We will now take up the management of the mentally deficient as it is exhibited by the special institution. The late Dr. Kerlin was very active in initiating the work in this country that has proven so beneficial to the public at large as well as the individuals. In olden times the Greeks destroyed their "fools," but in this Christian age we are not permitted to resort to such extreme measures, so it remains for us to protect the people and promote the happiness and usefulness of the individual by educational means.

In the many institutions provided for this class the school system takes precedence over the custodial. In fact, the entire institution might be considered a school, inasmuch as some degree of training is (with few exceptions) resorted to in all cases. The faintest ray of intelligence is carefully looked for, and when found acts as a lever to open the mind to other impressions.

The hand is generally the first to receive attention. The useless hand of the idiot is familiar to all. The simple act of raising a cup of water to the lips is often denied it; but after training many of these children can make beds, sweep and perform other domestic duties. Every possible means is resorted to to at least raise the independence of these children, who cannot perform the simple acts of daily life that the normal child does continually, unconscious that it ever had to learn to do just that one thing.

Sometimes a child is labored with for years in this simple way until he has reached a point of development where he can enter into the kindergarten work; from there take up the sloyd or manual arts, on into what corresponds to the primary and intermediate grades of our public schools. Here at the age of 20 years you will find him with a fair amount of knowledge of geography, arithmetic, spelling, etc., able to perform in a very intelligent way rough carpentering work, gardening, etc. It is possible now for him to be sent out to earn his own livelihood, providing he be placed under proper supervision and not subjected to temptation. Many of these cases are not primarily vic-

ious, but often show a sweet, lovable nature, capable of much good or evil, according to the influence that surrounds them. The will is weak, and they become an easy tool to their more evil companions.

Institution work is organized upon a broad scale to meet every requirement. Military drill and calisthenics receive special attention, and together with all manual work prove important factors, for mental specialists generally agree that the education of the body helps to develop the mind.

A band is usually formed from the inmates. Entertainments are given at intervals wherein the children take active part. Sewing and all domestic duties are taught, together with gardening, carpentering and the general care of the premises. As a consequence the number who are absolutely helpless is greatly reduced.

How much better this condition than the retaining of such a child in the home where it degenerates instead of improves, bringing trouble and anxiety to all about him.

Many parents would send such children to special institutions, but are debarred from doing so through financial reasons, and as yet comparatively few States make provision for them. Others are deterred from doing so through a false sentiment; this would be overcome if the institutions were considered more in the light of schools than asylums.

There is a class of the mentally defective found in our schools which represent the borderline cases, recognized oftener by the teacher than the physician. Such cases exhibit incapacity in one or more directions, being normal in other respects and often excelling in some one line.

These children, while capable of receiving an education, cannot be treated as the normal child. School authorities, realizing this, are making efforts to provide special instruction (as is done in Germany) for them in connection with the city schools.

Every city should have an "auxiliary school" centrally located, where these children can receive individual training. After special training a child may be permitted to take its place in the regular school work.

These children's minds are like some plants; they need more tender care to start them growing, but when once a foundation is laid become vigorous and hardy; but if deprived of this initial care, grow up weak and distorted.

The anemic child must not be confounded with actual mental defect, for in the former the sluggishness of mental activity is a general condition dependent upon improper nutrition, and such a child should not be in school at all, but given proper food and outdoor life until the anemic condition is overcome.

In closing I would say a few words concerning State economics as related to this subject. The providing for these cases by the establishment of State institutions for the severer cases and auxiliary schools for the milder ones means, of course, a large expenditure of money, but one function of the State is to protect and care for its own, and after all is it not better and more economical to support such institutions for the improvement of a class than penitentiaries and poorhouses for the detention of the criminal and disabled? Sooner or later a large proportion of the mentally deficient become wards of the State in one capacity or another.



Society Reports.

MEETING OF THE SOCIETY FOR MEDICAL PROGRESS OCTO- BER 12, 1898.

At the New York School for Clinical
Medicine.

Dr. Louis Fischer, President, in the
Chair.

Professor Ludwig Weiss, M. D., demonstrated some new dermatological preparations and genito-urinary instruments, which he brought home from his recent sojourn to the medical centres of Europe. He dwelt cursorily on the radical changes in the diagnosis and therapy of skin diseases, which emerged through Hebra, from empirism and systemless systemization into a well-defined discipline, resting on pathological anatomy and consequent aimfull therapeutics. Unna and his school have taught us to individualize the remedial actions, as well as the vehicles and the mode of application. The mainstay of all dermatotherapeutics were from time immemorial the fats in form of salves, as they dominate yet with the right of the just. But some skins revolt against fats, and so Unna devised years ago already, the so-called pastes made with dextrin, bolus, gelatine, as a base. Then followed the varnishes, which are soluble in water and give a thin coating to the skin. The newest of them are the inguentum caseini and the gelanthum. The former consists of an alkali-caseinate, glycerine, vaseline and water; the latter of trageth, gelatine and water. They mix with ichthyol, resorcin, chrysarobin, zinc, bismuth, etc., and are excellent protective and healing applications to the inflamed and oozing skin. He exhibited also another form of skin coating, called the zink, gelatine, which serves as a base to other ingredients, like ich-

thyol, zink, etc., an extremely useful and soothing skin varnish. It has to be melted before brushing it on.

Among other urological instruments he exhibited the intra-urethral case of Kollmann, Leipsic. It contains all the delicately-built, slender little instruments used for treating the infected urethral follicles, like the crypts of Margagui and the glands of Littre. An aimfull treatment of chronic gonorrhea is impossible without them. They are to be used with the Nize-Oberlander urethroscope, where the electric light can be introduced into the visceral end of the endoscopic tube, permitting a direct and brilliant illumination. Under the guidance of which we can use the slender knife for slitting up clogged follicles, the bayonet-shaped electrolyser to destroy gaping gland ducts; the fine injection canula to be connected with a miniature guyon syringe for the injection of caustic solutions into the glands, etc.

For the prevention of gonorrhea he exhibited a small contrivance much used abroad. It consists of a small bottle, which ends in a small nozzle, and is encased in a metal cap, with a tap screw. The whole apparatus measures about one inch and a half, can be carried in the vest pocket, has no telltale features about it, and contains a two per cent. solution of nitrate of silver, to be used immediately post actum. It is called after its inventor, Blokuszewski's bottle, and is a very recommendable instrument.

Dr. S. P. Cahen requested informa-

tion regarding: Are the instruments the result of cure or only theoretical value, and asked if the two per cent. Ag No₃ solution is really of value.

Dr. F. Lowenstein said AgNo₃ as a curative in two per cent., or five per cent., was of no value, and found urethra full of gonococci frequently.

Dr. B. Lapowski said this was all new to the general practitioner. AgNo₃ was good for a man who never had gonorrhea, claiming it to be doubtful if two per cent. would kill, and of no value if the man drinks or has intercourse; in reference to instrumentation he thought one should make himself acquainted with the biological and pathological condition of the urethra, and if one wants good results he must fully open follicles.

Blokuszevski's ingenious service may be of advantage in some cases, provided (1) the injection is made into a urethra which was never before attacked by the gonococcus; and (2) immediately after coitus. Even if the injected drops do reach the gonococcus, it is very questionable whether the strength of the solution used is sufficient to deprive the gonococcus of its vitality.

In summing up Dr. Ludwig Weiss, in answering to the questions of the different members, remarked that Blokusevsky's little preventive bottle was indorsed by no lesser authority than Professor Neisser, of Breslau, and by the profession at large in Germany. As to the value of a 2 per cent. solution of nitrate of silver for the destruction of gonococcus, there can be no doubt, as Crede has pointed it out years ago, when he recommended the instillation of such a solution into the eye of the newborn immediately after delivery. The instillation post-coitum of such a solution with such a handy little contrivance gives protection which borders almost on absolute surety. As to the local treatment of the urethral glands, such a step is indispensable when we remember that the gonococci may be stored up in them and rest dormant there for years, always ready to emigrate to the surface again and set up under favorable circumstances a subacute urethritis.

DEMONSTRATION BY DR. LEON F. GARRIGUES.

Gentlemen: The specimen which I have brought for your inspection this evening is a suppurating multilocular ovarian cyst. It filled the whole abdominal cavity, and was densely adherent to the diaphragm and intestines. The pedicle was twisted completely around.

Cysts of this size are becoming rare, as they are nearly always operated on earlier.

A curious circumstance in this case was that the woman did not suspect she had a tumor at all. She had had three children in the past four years, and, as she expressed it, her stomach was a little higher after each, which she considered natural.

Her family physician, on discovering the mass, introduced a trocar and withdrew a waterpail full of a grayish viscid fluid. Then some hard masses, about the size of a small fetus could be felt through the abdominal wall, so he came to the conclusion that she had an abdominal pregnancy, accompanying the uterine one that had just ended.

He sent for me to see the case. She was then running temperatures of 101 and 102 degrees Fahrenheit, but only had slight abdominal pain or tenderness.

I made a diagnosis of ovarian cyst, probably suppurating, and so it proved to be when I subsequently removed it by laparotomy. The hard masses were the small compartments at the origin of the cyst. The muscular elements in the abdominal wall had almost entirely disappeared on account of the enormous distension. The abdominal wound was carefully closed with three layers of sutures.

The operation took a little less than one hour to perform, and the patient made an uneventful recovery.

Professor H. J. Garrigues demonstrated a specimen, consisting of the uterus and part of the vagina of a woman sixty-eight years of age. She had consulted him for a prolapse and severe hemorrhages. He found the cervix partly protruding from the vulva. There was a nearly com-

plete inversion of the vagina. The cervix was drawn out and thinned, forming a body of the shape and size of the middle finger. On account of the stoutness of the patient the body of the uterus could not be felt. When she was anesthetized, a large, hard mass could be felt on either side of the uterus, which might be fibrous ovaries or sub-peritoneal uterine fibroids. When the posterior culde sac was opened nine fibromas, varying from half an inch to two inches in diameter, were peeled out before the uterus was sufficiently reduced to allow it to be turned out through the opening. The broad ligaments were ligated, and the uterus with cervix and a large part of the vagina removed in one piece. There was hardly any loss of blood.

The muscular tissue had all disappeared, and the fibromas were only held together by loose connective tissue.

The patient rallied nicely, but developed a pneumonia, to which she succumbed on the sixth day after the operation. The autopsy showed that the abdominal cavity was closed at the seat of extirpation, and that there was no trace of inflammation.

A paper by Dr. T. J. McGillicuddy was then read, entitled "Mechanico-Therapeutics, Medications and Applications." (See "Times and Register," page 257.)

DISCUSSION OF PROFESSOR T. J. MCGILICUDDY'S PAPER. NEW YORK.

Professor Louis Fischer opened the discussion by expressing gratification at the benefits of this line of treatment in connection with chronic diseases. It especially appealed to him as a very valuable means of benefiting chronic pulmonary ailments, and more especially where the patients were unable to go to proper climate for the relief of chronic tubercular lesions which were due to improper expansion of the lung tissue and which could be benefited by proper pulmonary gymnastics. He then presented a girl about 15 years old that had been under his care at the New York Post-graduate Medical Hospital (Children's Department) since 1893, and

had been constantly under observation at least once a week at the Children's Department of the German Poliklinik more recently. This girl came under treatment for the relief of an epistaxis, and showed some signs of cough, but no expectoration. This was in '93. She complained of chills, had a temperature of about 100, complained of general malaise, and, while she did not emaciate, her weight remained at a standstill for several months. This latter fact was my reason for expressing the opinion that she suffered with pre-tubercular anemia. At this age of a child's life, especially where the normal tendency to development exists, and more especially when we must consider the probable development of menstruation, the physiological increase of weight is always well marked. The treatment consisted in giving nutritious, easily digested food, such as farina, rice, barley and sago, oatmeal and hominy with milk, butter, eggs and veal, mutton, beef and chicken broth. All foods which are difficult to digest, such as pastries, pies and cakes of all kinds, were excluded from the dietary. The hygienic treatment consisted in putting the child as much out of doors as possible and ordering the windows open at night; exercise, by compelling the patient to walk into the open park, rain or shine. The fallacy of keeping patients indoors during rainy weather or damp weather is worth mentioning. While the child was in the open air she was instructed to avail herself of pulmonary gymnastics by drawing deep but slow inspirations and also slow expirations, so that all the lung tissue, more especially alvoli, might be filled with air. This portion of the treatment can certainly be called mechanico-therapeutics.

In addition to this cold sponging of the body and friction with a Turkish towel were also advised morning and evening, so that we could stimulate the circulation. Cod liver oil inunctions were ordered every third evening, and the only treatment (medicinal) consisted in giving creosote carbonate, commencing with five drops three times a day, and gradually increasing it until 25 drops

three times a day had been given. I take great pleasure in presenting this case to you this evening, and you can easily see how a possible fatal tuberculosis has been avoided by careful management. One point is still worth noting, namely, that although she is in her 18th year, menstruation has not yet appeared.

Professor Fred C. Valentine said: "I regret that I was unable to be present at the reading of Dr. McGillicuddy's paper. The interesting demonstration just given is certainly instructive and shows the value of intelligently applied mechanico-therapy. My incompetence to discuss the paper does not prevent my appearing as an inquirer. I do it on behalf of a most distressing case, in the hope that scientific mechanico-therapy may offer suggestions which will enable me to better the treatment. I speak of a man aged 45, who some years ago was the subject of internal urethrotomy, later of external urethrotomy, and afterward of suprapubic cystotomy. His urethra at the time of his first visit measured 20 F. His bladder, however, was shrunken so that it would hold only 28 to 30 c. c. (one ounce). He voided every 15 minutes, day and night, 20 to 25 c. c. of very putrid, purulent urine. The production of so much pus, the loss of sleep, the continual pain, all made him a pitiable object. I proceeded by the use of the irrigator that bears my name to forcibly dilate the shrunken bladder. In 11 days' time I succeeded in causing his bladder to hold 75 c. c. He urinates now between five and six times at night instead of 32 times; during the day he urinates every hour and three-quarters. Sometimes he holds his urine two hours. He voids his urine without pain and with considerably less pus. I offer this case to ask whether I have not in my ignorance applied mechanico-therapy and to ascertain from my better informed colleagues if and how mechanico-therapy more intelligently applied will improve my treatment of the case.

Dr. S. P. Cahen thought massage was the main feature in mechanico-therapeutics, and thought the whole difficulty lay in the way of massage, found beneficial in atony of intestin-

al canal and stomach, and found it beneficial in case of writers' cramp and bladder trouble, when massage was done directly.

Dr. McGillicuddy closed discussion.

TRANSHYDATID CYSTS OF THE KIDNEY.

Ingenical diagnosis is difficult; error is frequent. In twenty-eight cases reported, twenty-one by Boekel and seven by us, there were thirteen errors in diagnosis; four times the operator made an approximate diagnosis, and in eleven only was he definite. Mistakes have been made by Nelaton, Baldwin, Haussner, Bonilly and Vogt. Certainly piece exploratory incision has become safe; mistake is becoming much rarer. The usual necessary proof that hydatids are lodged in the kidneys in the presence of a tumor with two *echinococci* in the urine. It is true that only a vesicle perst into the rectal pelvis the entozoa will be wanting, and, on the contrary, as Le Danta has recorded, one may discharge hydatids in the urine, when no trace of a tumor can be made out. The exploratory puncture is an important aid, and not commonly harmful, if proper care be exercised. Moissenet has shown, in his important work on this subject, not only how these punctures are made to escape injury, but also demonstrates how, in healing a complete cure may be effected through their employment. Hydratid-cyst of the kidney is always a retroperitoneal growth, generally oblong and rather flat in outline. But the ascending colon lies in close contact with it, and often very large veins ramify over its walls.

Boekel has shown that while prevention may sometimes succeed, it is not without dangers. The intestine has been wounded, and large blood vessels have been opened. Heussner made an exploratory puncture, and evacuated a clear non-albuminous fluid; it did not have the odor of urine and had no hooklets in it. It has been claimed that another danger of the puncture is that, aseptic or not, it may provoke suppuration—"may set fire to the house." Bail-

ly's patient was punctured twice by Peau, the second time without result. An operation esupparating cyst was forced. Le Dentu's patient had also been previously drained by puncture, but on operation a vast succlated, adherent pouch was found. These were not cases of cause and effect, but examples which might be multiplied. We must then, when we employ the puncture, be prepared, at times, for consecration supparation and operate as soon as symptoms of sepsis are announced.

A difficulty occurs in the variable quality of the contents of hydatid tumors, which sometimes may bewilder the surgeon. There may be a little liquid and many hydatids. In one case Peau could find none. Koenig explored and withdrew a brownish liquid, rich in cholesterine, but there were no hooklets. Baldini withdrew through a renal puncture four litres of a citrine-colored transparent, non-albuminous fluid. It contained uric acid.

That growths of benign species of

the connective tissue, the adenoid papillary, tend towards malignancy is certainly not proven, though, no doubt, the position of so eminent an authority as Gouley on the necessity of early removal is in the right direction, when this may be accomplished with safety, or when the growth disfigures or is a source of physical distress.

But a great many tumors are slow and insidious in development and attain to a considerable volume; they may be quite painless, and, what is more, tend to diminish in volume with advancing years. This is certainly true of uterine fibroids, though we seldom witness this in the breast, except in atrophic scirrhus, a case of which is now under the writer's care, which has run a painless course for fifteen years. The gland gradually shrunk up and melted down by an ulceration, until every vestige disappeared and the parts closed in.

FRED P. LOWENSTEIN, Sec'y.

Book Reviews.

MODERN GYNECOLOGY. — A Treatise on Diseases of Women. By Charles H. Bushong, M. D., New York. Second Edition, Illustrated and Enlarged, 1898. Published by E. B. Treat & Co., 241 W. 23d st., New York City.

The above is a small work, of 400 pages, comprising a treatise of the practice of to-day in this particular specialty. It is concise and not exhausting. The subject has been well handled, and the advice given is excellent. The illustrations express ideas that are difficult to convey in words. The book is gotten up in Treat's own admirable style, with good binding and paper. It is a work well calculated to help the practitioner in modern gynecology.

TREATMENT OF SKIN CANCERS.
By W. S. Gottheil, M. D., Professor

of Dermatology at the New York School of Clinical Medicine, Dermatologist to the Lebanon Hospital, the Northwestern and West Side German Dispensaries, etc. Published by the International Journal of Surgery Co., 100 William Street, New York. Price, \$1.

The subject is treated in a practical manner, from the standpoint of the general practitioner, as well as the specialists, and while every prominent modern method in the non-operative treatment of cutaneous cancer has received mention, the author elaborates especially upon the caustic method which experience has commended to him, and dwells upon the two essential points, recognition and treatment.

This book is printed upon heavy book paper, is substantially bound in cloth and profusely illustrated.

Editorial

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ON MAMMARY CANCER AND METHODS FOR ITS TREATMENT.

Cancer of the breast continues the greatest scourge of the female sex, not so frequent as the uterine, but always more distressing and agonizing.

When we encounter this lesion in a healthy subject, particularly when the seat of much irritation or pain, but few will hesitate to recommend excision, not because we can offer any hope of cure, or that even life will be much prolonged, but it brings mental rest, and, at least, a truce for a time from apprehension and suffering.

But certain authors have endeavored to force on us the assumption that cancer is curable, provided only excision is early and wide. We have from the beginning disputed their view, as our readers well know, and, as time progresses, it has been proven that our premises cannot be assailed.

Let us see where the proof of "cure" comes in. Well, in twenty cases which passed two years, Halstead found no recurrence; however, of these, all but two had relapsed

and died before the three-year limit had passed.

Professor H. Dennis stated before the American Surgical Association (1895) that this would mean ten per cent. cures. But why pronounce a case "cured" simply because the patient has survived three years? Bilbroth had an operative mortality after excision of twenty-three per cent., now reduced in selected cases to about one per cent.

Dennis praises the harpoon as an instrument of value in diagnosis, but Keene and DaCosta do not so regard it, as fragments so obtained do not always show the character of the growth, and as often leads to error as truth. (American Year Book of Medicine and Surgery, 1897.)

Volkman declares that if a cancerous growth does not renew itself in nine years its return is improbable, while the younger Gross declared that not more than two or three per cent. relapsed after three years. Jones and Platt (Lancet, August 11, 1895) were confident that fifteen per cent. of these cases may

recover permanently if operated on early.

Gouley (New York Medical Journal, December 23, 1895) declares that malignant tumors are more common than benign, and that the latter often take on malignant changes, as carcinomata often follows adenomata. Therefore, early removal in many cases provides almost indefinite immunity.

No branch of medical science yet remains in greater obscurity than oncology.

The diagnosis of hydronephrosis was made for operation. The case was found to be one of hydatid cyst.

I agree with Olshausen that, everything considered, the incision is the safest, the most exact and perfect means of clarifying diagnosis, though in every instance we must be prepared to go on with complete operation.

Tilleux gives us important rules, which may sometimes enable us to determine, with reasonable certainty, whether we have a hydatid cyst, or posterior to the peritoneum, and whether the cyst be renal, retroperitoneal or mesenteric.

Hydatid cysts are usually of a very slow development and painless. They

give rise to no inconvenience until their volume and weight impede function.

They very rarely undergo spontaneous recovery, and may be said to be an exclusively surgical lesion.

Houzel deals with a rare but important class of cases. The writer has seen and treated but two. In both the attending physicians were bewildered in diagnosis. One was in a boy of ten years, who was said to have "sarcoma of the kidney." The lumbar incision evacuated three quarts of syrupy fluid, filled with hooklets, the lad making a rapid recovery. The other case was in a veterinary surgeon, seventy years old. He had a mammoth tumor contiguous with the lower border of the liver. A distinguished diagnostician had pronounced the mass "malignant disease of the liver." Through the lumbar incision the writer removed a little more than two gallons of limpid fluid, in which every variety of hydatid was found. When this sac was drained, the abdomen collapsed, and another tumor, about the size of a fist, was seen just under the umbilicus. A laparotomy was made, and then tapped. The double operation was too much for patient's strength. He died three days later.

T. H. M.

CARDIAC DISEASES AND LIFE INSURANCE.

In the consideration given to diseases of the heart by Sir William T. Gairdner before the Section of Medicine in Relation to Life Insurance, in his valuable paper on the "Prognosis of Cardiac Disease," some very interesting problems as to the permanency of valvular troubles were offered for the attention of those particularly interested in these special forms of affections. We are all aware that the majority of insurance companies place an added premium on those persons applying for insurance who happen to be afflicted with various forms of cardiac valvulitis, and yet he has conclusively proven

by citing many cases that it is frequently found that these valvular difficulties are apt in many instances to disappear and leave not the slightest trace of former disease. We have taught in the past that these lesions of the valves are irreparable and that any treatment directed to the condition itself is absurd and unwarrantable. It is to the secondary effects resulting from the disturbance of the compensatory action which sooner or later takes place that our best efforts should be directed. The young connective tissue of the endocardium rapidly develops into the stronger and more

mature fibrous material, and the cicatrization which follows the latter can never be removed, as the scars which it leaves are of a permanent character. Much has been written in the past as to the retrograde changes which the endocardial tissue undergoes in the presence of acute inflammatory action, and much remains yet to be said upon this interesting subject. Pathological researches are not always in accordance with clinical manifestations. If they were then the mitral murmur of to-day would be the same years hence, only growing progressively worse with the passing years as sclerotic transformation takes place more rapidly with age. But here are cases given in which the murmurs and all other evidences of cardiac disease have entirely disappeared. It is difficult to effect a compromise between these clinical facts and the theories of the pathologist. It also demonstrates that we do not as yet fully comprehend what a powerful factor the ever-present question of personal equation is in the sphere of cardiac, as well as in other diseases. Two hearts may be pathologically identical so far as we can discover, but their clinical symptoms vary with the passage of time. Each individual may be assumed to be a law unto himself, and should be judged solely from that basis. But the chief points to be considered are (1) if these valvular lesions of the heart are irreparable how is it that in time their clinical phenomena may entirely disappear, and (2) is not a grave injustice being perpetrated by insurance examiners in neglecting many valuable policy

holders who, outside of a slight apical murmur, are in the possession of excellent health. Viewed from every standpoint, to the student of cardiac affections the demonstrations of Sir William are extremely opposite.

It has been ascertained that frequently a murmur exists for a considerable length of time, and independent of the coincident existence of anemia or other conditions which produce a perversion of the muscular tissue of the heart, where there has been absolutely no pathological lesion to be found post-mortem. These cases are of a puzzling character, even to the skillful diagnostician, and a satisfactory explanation of this condition is awaited with interest. Fortunately, in the majority of these cases there is nothing to be done, as the heart appears perfectly capable of fulfilling its functions without assistance. It is in just this class of cases that the physician displays ignorance well nigh criminal, in administering digitalis. And yet it is done quite frequently with the mistaken idea that the heart requires aid in overcoming the deficiency created by the latent endocarditis, as if an animal burdened with a great weight would be assisted in carrying its load better by adding to an already overtaxed condition. However, this is a subject which requires fuller consideration than can be given to it in this connection.

From Dr. Gairdner's statements the relation of life insurance to the existence of cardiac difficulties on the part of the applicant will have to be rewritten.
J. J. M.

MORPHINE IN ADVANCED KIDNEY DISEASE.

The use of opium in various advanced cardiac and kidney lesions has been a matter of debate for many years. Ever since Loomis advocated the adoption of hypodermic injections of morphine in advanced and almost moribund forms of ure-

mia the profession has eagerly seized upon this powerful drug as a stable reliance to overcome the convulsions incident to this condition. Yet there are many eminent men who either fail to understand the exact physiological relation existing between the

administration of morphine and the diseases in which it is recommended, or hesitate to add to an already existing comatose condition. The testimony adduced by the distinguished English physician, Sidney Ringer, in his paper, "The Use of Morphia in Bright's Disease," will have a tendency to clear away the mists which have so long enshrouded and befogged the minds of many physicians who failed to realize the great importance of the powerful narcotic in this class of diseases. There are occasions when, after trying the various diuretic remedies usually administered in advanced kidney disease for the reduction of general anasarca without accomplishing the desired result, the addition of morphine clears the field for action, and the diuretics act with renewed activity. It is of course well known that such a drug as morphine should not be used in every case of advanced kidney disease. Given indiscriminately it will certainly prove

more injurious than effective; but administered in carefully selected cases it is eminently satisfactory and a valuable adjunct to other therapeutic remedies. Frequently when the patient is worn out from the numerous demands of his system to overcome the disease, when from loss of rest, from irritation and generally nerve exhaustion the imperfectly depenated blood is unable to sustain the failing forces, small doses of morphine will quiet the nervous system, produce rest and give the patient a chance to recuperate. It is as a nerve sedative in this class of cases that morphine acts and, by increasing the nerve power, reacts, favorably upon the harassed kidneys. Indirectly, then, it has a marked diuretic effect, and the urine will show a decided increase in quantity and quality. Given in combination with nux vomica or its powerful alkaloid, strychnine, morphine will be very beneficial in this class of cases.

J. J. M.

NEWS ITEMS.

Dr. Leon F. Garrigues was elected Secretary of the Society for Medical Progress on October 12, 1898.

The November meeting has some interesting papers promised.

Dr. M. Kenyon, professor of diseases of the eye and ear in the New York School of Clinical Medicine and one of the staff of the Manhattan Eye and Ear Hospital, has a paper entitled "Operative Treatment of the Diseases of the Ear," which will shortly appear in the Times and Register. Professor Kenyon's popularity is proven by the fact that his classes are well filled.

Dr. J. P. Cohen, associate professor of practice of medicine, has promised a very practical paper on internal medicine, the title of which is not yet announced. He always adds to the scientific value of each year's proceedings by his valuable contributions.

Professor Thomas Manley has again secured a promise of an interesting scientific tidbit from our distinguished confrere, Dr. Tracy, of Boston. Unless some change is made, we shall have the pleasure of hearing our colleague at the December meeting.

The American Microscopical Society, at its recent annual session, elected the following officers for the ensuing year: President, Dr. William C. Krauss, of Buffalo; first vice president, Professor A. M. Bleile, of Columbus, O.; second vice president, Dr. G. C. Huber, of Ann Arbor, Mich; secretary, Professor Henry D. Ward, of Lincoln, Neb.; treasurer, Magnus Pflaum, of Pittsburg; executive committee, Professor S. H. Gage, of Ithaca; Dr. A. Clifford Mercer, of Syracuse, and Dr. V. A. Moore, of Ithaca.

PEDIATRICS.

In Charge of DR. L. FISCHER.

ABSCESS OF THE BRAIN IN INFANTS.

Holt (Archives of Pediatrics, Mar., 1898) sums up a careful study under this title with the following conclusions:

1. Abscess of the brain in children under five years is rare.
2. The principal causes are otitis and traumatism.
3. It rarely follows acute otitis, but most often neglected cases, and is usually secondary to disease of the petrous bone.

4. In the cases occurring in infancy without evident cause the source of infection is probably the ears, even though there is no discharge.

5. The development of abscess after injury to the head without fracture of the skull is extremely rare. In nearly all of the traumatic cases definite cerebral symptoms show themselves within the first two weeks after the injury. In cases with falls as remote as several months there is probably some other cause, such as a latent otitis.

6. In a large proportion of the cases only general symptoms are present, and these in very great variety.

7. Focal symptoms may be misleading unless they are constant, and even then they may depend upon associated lesions, such as meningitis. Motor symptoms only can be trusted, since the sensory symptoms are difficult or impossible to determine in infants or young children.

8. Rapid progress, fever, and a history of injury or otitis generally make a diagnosis from tumor easy. In the slower cases with little or no fever valuable assistance may be obtained from lumbar puncture.

9. From acute meningitis the diagnosis is more difficult, and in the cases in which there are only terminal symptoms the diagnosis is impossible. In the more protracted

cases the distinctive points with reference to abscess are the slower and more irregular course, and, as a rule, a lower temperature.

10. On account of the great amount of shock attending brain surgery in very young children operation should not be urged unless definite localizing symptoms are present, the principal one being hemiplegia.

L. F.

ADENOPATHIES IN RHACHITIS.

Frolich (Jahrbuch f. Kinderheilkunde, 1897, Bd. xlv., S. 882) has made a study of 185 rachitic children in order to find out whether swelling of the lymphatic glands should be considered a part of the clinical picture of rachitis. In this number he found 32 in whom all glandular swelling was absent; these were children who had never suffered from any malady except rachitis.

In the other 153 cases there were divers adenopathies; but careful examination showed that these children had with their rachitis either a tuberculous affection or a skin disease (furuncle, intertrigo, eczema, strophulus, phurigo, etc.), or a gastro-intestinal trouble, and that the glandular enlargements should be attributed to these complications.

As to the influence of digestive troubles in the adenopathies of rachitis, the author believes that it must be accepted after the results of his examination of 15 non-rachitic children with chronic digestive trouble in whom these adenopathies were found.

Enlargement of the spleen was noted in only 33 of the 185 rachitics examined, and was absent often in the cases with adenopathy. The author agrees with Stark that this enlargement of the spleen does not depend upon the rachitis but upon concomitant chronic gastro-intestinal disturbances.

L. F.

* A CASE OF PNEUMOCOCCIC CROUP.

Seuvre reported to the Societe Medicale de Reims (Seance of January 14, *Revue Mensuelle des Maladies de l'Enfance*, March, 1898, p. 157) the case of a child of 8 years, who, during an attack of influenza, manifested an erythematous angina. Laryngeal stenosis rapidly supervened and, despite the injection of Roux's antitoxin, called for tracheotomy on the evening of the same day. The wound gave issue to a false membrane of colloid appearance, which gave a pure culture of the pneumococcus. The case recovered.

L. F.

INTESTINAL CATARRH—CONVULSIONS—SUDDEN DEATH.

James Carmichael, Edinburgh (*Pediatrics*, December, 1897), under the above headings, relates the case of a child brought into the hospital in convulsions associated with intestinal symptoms. Improvement was steady and the child was considered to be progressing favorably, when on the tenth day the temperature rose rapidly, followed by death. No cause could be made out. The opinion of the author is that death was due to auto-intoxication from the intestinal tract. He then devotes a short space to the causes of sudden death in children, mentioning hyperpyrexia per se; asphyxia due to collapse of the air vesicles in a healthy lung where there is pleural effusion on the other side; laryngismus stridulus, marasmus, producing subnormal temperature and collapse; internal capillary hemorrhage the cause of which is obscure.

L. F.

INCUBATORS FOR INFANTS.

Editorial (*Pediatrics*, January, 1898). Statistics vary as to the number of prematurely born infants, from 5 per cent. to 20 per cent. being given. At the Paris Maternity Hospital in one year there were 641 premature children, and amongst these the mortality was 32 per cent., that of the other children being 8 per cent. The chief desideratum is an even, warm temperature. Mention is made of the old-fashioned devices for this purpose. About sixty years ago Dr.

Crede, of Leipzig, constructed a box with double metallic sides; the space between could be filled with hot water so as to maintain an even temperature. Dr. Tarnier, the designer of the modern *conveuse* (breeder), received the idea from the artificial *conveuses* at the "Jardin d'Acclimation" for the rearing of poultry. During last summer an incubator show was held in London, and there has been erected in Kensington a structure where weakly children can be nursed and kept in new and model *conveuses*. As yet incubators have only been available for the rich, but it is proposed to establish in London and other large cities incubator stations from which, in answer to messages, incubators will be promptly dispatched to whatever place they are needed.

PASTEURIZED MILK AS A FOOD FOR INFANTS.

(*Pediatrics*, January, 1898.) Heating to 170 degrees F. did not destroy the toxins, nor was their production prevented. The bacterial contamination of milk can be divided into three groups: (1) The lactic acid forming group, (2) the butyric acid forming group, (3) the peptonizing bacteria. The first group is very active in causing gastro-intestinal disorders, and requires sterilization at 200 degrees F. or 212 degrees F. to destroy them. The last two groups are not completely destroyed short of sterilization. He described the symptoms of what he called milk poisoning in children fed on pasteurized milk. Mild cases had a diarrhea coming on suddenly, with a large number of green, ill-smelling movements of an acrid character, and cured by a dose of oil. More serious cases were those in which the milk was taken well for a time and then gastro-enteritis of a serious nature developed. He cited a number of cases in his own practice in which the diarrhea resulting from pasteurized milk had stopped on giving sterilized milk. He claimed that all milk fed to infants should be sterilized at 90 degrees C. or 100 degrees C. for ten minutes, and then put on ice. This would check the development of the peptonizing bacteria. The

argument that milk was rendered more indigestible by sterilization had not been proved in his experience. A study of the feces seemed to show that the digestibility of raw, pasteurized and sterilized milk was about the same. The author concluded that pasteurized milk was an uncertain and in some cases a dangerous food for infants.

In the discussion which followed the author was supported in his opinion by Dr. A. Caille and Dr. W. L. Carr, and opposed by Drs. Freeman, Chapin, Dessau, Kerby and Marbott.

PATHOLOGICAL CHANGES IN THE MIDDLE EAR DURING MEASLES.

Pfingst, Louisville, (Pediatrics, February 1, 1898), relates a case in which, after the disappearance of the eruption of measles high fever suddenly developed, and continued high for three days without any apparent cause. The child was sitting up in bed, playing, and complained of no pain. Only once she stated to her mother that she had a slight pain in one of her ears. On the fourth day there was a free discharge of creamy pus from both ears. Bezold has made some investigation into the frequency of ear complications in measles. He made necropsies on 18 fatal cases of measles. In five of them there had been a discharge from one or both ears, but in the other 13 there had been no ear symptoms except a diminution of function. Post-mortem showed that in every case there was an exudate in the tympanum, consisting of pus cells and fibrin, and always containing some of the pyogenic bacteria. Conclusions: That severe cases of measles rarely run their course without involvement of the middle ear; that the inflammatory process usually runs its course without subjective, and often without objective, symptoms, and that only occasionally perforation occurs. L. F.

ETHER NARCOSIS IN INFANCY.

Stoos (Memorabilien, 1897, xl, 446). Demme has pointed out that ether narcosis is not safe during the first years of life, as it is apt to cause irri-

tation of the mucous membranes, bronchitis, broncho-pneumonia and vomiting; furthermore, the stage of excitation is said to last longer than in chloroform narcosis, and therefore very excitable children are hard to etherize. We often meet with shaking spasms; the awakening is not as quiet as after chloroform, and is frequently followed by vomiting, anorexia and an irritable condition for 36 to 48 hours. For these reasons chloroform has been preferred as an anesthetic for children until recently, when a change of opinion has taken place. The surgeon at the present time concedes that ether is safer than chloroform. Stoos lost faith in the safety of chloroform narcosis in children since he saw the occurrence of chloroform collapse after its use in children. There are cases of death even reported from this cause. Ether does not irritate the mucous membrane of the trachea and the bronchi in small children more than chloroform. Children suffering even with a slight cough may be etherized without harm. A severe catarrh or disease of the lungs is of course a contraindication to its use. It has been claimed that profuse salivation occurred in children, and therefore the period of teething, in which salivation is increased, was not a suitable time for administering ether. Stoos has not had this experience. Intense salivation is usually caused by an existing coryza. The children should be placed horizontally, with slightly raised head, and turned to one side to facilitate the flowing off of the saliva. The assertion that the beginning of etherization is more difficult, slower and more unpleasant, the stage of excitation greater and longer than in chloroform narcosis, is without weight, if the ether is properly administered; within two to five minutes relaxation of the muscles is obtained. Nausea and vomiting do not occur more frequently than after chloroform narcosis. As a preparation to the administration of ether the stomach should be kept empty and a clyisma may be given. Ether narcosis should be preferred to chloroform on account of its lesser danger. Rehn mentions that in Frankfort City Hos-

pital ether is now preferred to chloroform in children.—Pediatrics.

L. F.

THREAD WORMS.

In those cases of thread worms, in which macroscopic and microscopic examinations of the fecal matter is impossible, Muller de la Fuente, in the *Munch Med. Wochenschr.*, mentions the following signs in diagnostic auxiliaries: According to his observations, the sudden occurrence of severe abdominal pains which can be exactly located are characteristic. At the seat of pain there is present great tenderness on pressure. The absence of continued fever militates against the inflammatory character of this circumscribed pain, as we only meet with a slight rise of temperature towards evening when thread worms are present. Convulsions can be traced directly to these worms, and disappear immediately after the latter are expelled. Their connection with chorea, on the other hand, is not a direct one. The author furthermore calls attention to the frequent epidemic appearance of this trouble, even where filth may be excluded. He also refers to the often-time vicious character of the disease, as well as to the great frequency with which contraction in the field of vision occurs in cases suffering with thread worms. This phenomenon also disappears after the worms have been removed.

L. F.

—Therapeutic Wochenschr., 1897, iv, 869.
Pediatrics.

REMOVAL OF THE WHOLE OF THE BOWEL OF A CHILD BELOW THE TRANSVERSE COLON.

Dr. Frederic Treves, senior surgeon to the London Hospital, has for the first time in the annals of surgery performed this radical operation. The history of the case, as reported in the *Lancet*, is briefly as follows: A little girl, aged 5 years and 9 months, was brought to him on January 5, 1897. She was the daughter of perfectly healthy parents. She was suffering from extreme constipation, which was attended by frequent attacks of intestinal obstruction. The abdomen

was of enormous size, and was distended like a balloon. It was everywhere uniformly tympanitic.

Through the thin parietes an enormous coil of intestine, evidently the colon, could be seen. Dr. Treves on January 13, 1897, performed laparotomy. There immediately presented a gigantic coil of the colon, which looked and felt like the adult stomach, and which appeared to fill up the whole of the abdomen. The wall of this intestine was smooth and much thickened by hypertrophy, and the actual diameter of the collapsed loop was eight inches. After passing a gum-elastic tube of large calibre through the anus into the interior of the dilated bowel with unsatisfactory results, an artificial anus was established in the centre of the median wound, and for nine months all motions were passed by this opening. In October, owing to the great difficulty met with in keeping this artificial anus open, Dr. Treves determined to attempt the excision of the colon from the splenic flexure to the anus. The second operation was performed on October 29. By means of an elliptical incision in the skin the artificial anus was isolated and removed, and the abdomen entered on each side of the opening. The orifice in the colon was closed by a series of substantial sutures. It was found that the gut, which had at one time been so enormously distended, was now of more moderate dimensions. The dilation of the colon extended up to the splenic flexure. Beyond that point the colon was practically normal, although it had evidently been to some degree distended and still showed some hypertrophy of its walls. The colon on the right side was normal, and the whole of the greater bowel had a very free meso-colon. Having found that the left extremity of the transverse colon could be brought to the anus, the left colic artery was isolated and ligatured, and the bowel, after being clamped, was divided at the splenic flexure. The sigmoid artery was then isolated and the superior hemorrhoids were isolated and ligatured. The gut, representing the descending colon, the sigmoid flexure, and the upper part

of the rectum, was then excised and the bowel was divided low down in the pelvis, below the entrance of the superior hemorrhoidal artery. The child was now placed in the laparotomy position, and, an elliptical incision having been made around the evidently narrowed anus, the anus, together with the lower and remaining portion of the rectum, was removed. The separation of the rectum from the slender vagina was a tedious matter. The middle hemorrhoidal vessels were secured and the lower end of the rectum was removed without difficulty. The transverse colon was then brought down to the anus, where it was secured by a series of close sutures. The gut was conducted into position by four pressure forceps, which were passed into the abdomen through the hole in the perineum. The operation was concluded by closing the wound in the abdomen without drainage. The child made an excellent and speedy recovery. No sedative of any kind was needed, as little pain was complained of. The only complication was represented by some suppuration between the new rectum and the vagina. As soon as the child began to run about this discharge ceased entirely.

L. F.

TREATMENT OF INFANTILE URIC ACID INFARCTION.

By W. C. Hollopeter, M. D. (International Clinics, Vol. III, seventh series).

The writer mentions the case of a child four weeks old without any evidence of functional derangement the first week except a tendency to cry violently and spasmodically.

He says: "The nurse informs us that the crying seems to precede the alvine and urinary excretions, yet during the first two weeks these functions were seemingly performed naturally. During the last week the distress has been decidedly augmented. On examination we find the child probably under weight, with apparent loss of the subcutaneous fat, slight depression of the anterior fontanel, a dry, harsh skin. The crying does not seem to be caused by handling, nor does it occur during nursing. The nurse informs

us that immediately after a violent paroxysm of crying she finds the napkin slightly stained by a brownish-red fluid. This is the altered urine, the cause of the infant's distress. The diagnosis is easily made. It is one of the most frequent disturbances of early infancy—uric acid infarction. The symptoms give rise to pain, in extreme cases—like the one before you—to violent spasmodic crying, associated with the act of urination, scanty urine, sometimes anuria, slight inflammation of the renal tubules, dry skin, and restlessness, and occasionally blood may be associated with the scanty urine. This condition occurs, more or less, in all children during the first two weeks of life."

The cause is evidently due to the excretion of uric acid crystals before there is sufficient fluid to dissolve them, so the crystals form in the tubes. This condition is a very strong plea for plenty of water in the young infant's system. Bottled infants are more frequent sufferers than those breast-reared, yet the trouble frequently arises in both. In both cases it would appear that the food was too frequently exhibited, or of too strong a nature. The urine of properly fed young infants is perfectly colorless; it will not stain the napkin at all; hence any departure from this standard must be looked upon as abnormal. This condition you must strive to gain at all times, and instruct the nurse and mother accordingly. The treatment is to correct the food if artificially fed, establish correct habits of maternal nursing if faulty, administer plenty of water frequently during the intervals of nursing, giving some alkaline diuretic if the case is troublesome, such as citrate of potassium or liquor potassium—one grain of the former and one drop of the latter given in plenty of water.

For the paroxysms of suffering he suggests a warm body bath or hot fomentations around the trunk, or if necessary five drops of spirits of chloroform in water every ten minutes. In very troublesome cases a high enema of bicarbonate of soda in warm water (gr. xx-oz. j) will relieve the renal spasm.

L. F.

CLINICAL SURGERY AND SURGICAL PATHOLOGY

In charge of T. H. MANLEY, M. D., New York

TAXIS AND MODE OF INCISION IN STRANGULATED FE- MORAL HERNIA.

In strangulated femoral hernia the directions laid down by the older authors as to the mode of applying taxis counts for positively nothing; nay, they are worse than useless, for their employment implies that manipulation is reasonably safe and certain, while experience disproves both; and more, by this unsurgical procedure the intestine is often irretrievably damaged beyond repair by the crushing and tearing of the fingers.

In former times the rules for incising or dividing the seat of strangulation were laid down with great fullness, and a special probe-pointed bistoury was devised for the blind moping in the dark. The operator always had a terrible dread of hemorrhage.

My own experience with this and all other types of strangulation emphatically induces me to advise the rejection of protracted taxis, baths and antispasmodics. The use of pulmonary anesthetics in taxis should be strictly proscribed. Let us always cut from the outside in, and then if we divide one or more large or small vessels, close them, as we would in any other operation. But let us invariably open the sac, freely divide all constriction, draw down and thoroughly free the intestine before we reduce it.

TUMORS OF THE LIVER FROM THE SURGICAL POINT OF VIEW.

In this review of the subject, as above stated, it is not intended to include floating lobes, hydatid cysts, secondary metastases or cancer of the gall bladder. We shall here note only those connected with surgical intervention for primary

growths. Authors here cite in detail forty cases. Among this number two were treated for palliation by Gowadenski and Tuffier. These surgeons did not undertake radical measures, but were content with a cholecystenterostomy. In Gowadenski's case pain ceased, the temperature sank, but there was a persistence of the biliary fistula. The patient sank three months after operation. Tuffier's patient sank from shock.

These palliative operations are urgent to combat painful complications by compression of the biliary in intestinal tube, just as trepanation is justified in cerebral compression, by inoperable tumors.

Thirty-eight times the surgeon undertook to completely effect a radical and curative operation for tumors of the liver for:

- Four sarcomatous tumors.
- Seven cancerous tumors.
- One cancerous secondary tumor.
- Six adenomatous tumors.
- Four angiomatous tumors.
- Three undetermined tumors.
- Nine gumma tumors.
- Four biliary cysts, non-parasitic.
- Eighteen operations were performed for malignant tumors.
- Nine operations for syphilitic tumors.

There were thirty-two operative cures and six deaths. Death was caused by hemorrhage and shock.

The ultimate results are difficult to estimate, as many died rather too early to class these as definite cures. The benign tumors give the best results. Malignant tumors give us the most unfavorable results. Elliott and Israel noted relapse from three to four months. Poirrier and Jacob had each seen adenoma recur after eleven and twelve months. On the other hand, in quite a few, recurrence has been much more

tardy. Thus Barrdeleben, in a sarcoma, saw no return after two years. Lucke lost his patient six years after a cancer was excised; and, finally, Tricoma's patient maintained perfect health three years later.

It is evident that operation for malignant or other tumors of the liver is not so redoubtable a procedure as one might suppose.

The most redoubtable obstacle is hemorrhage, yet with proper precautions, this may often be securely controlled.

—By M. M. Terrier and Andray.

STUDY ON THE REGENERATION OF THE TISSUE.

The above question remains to be considered. What becomes of the resected surface left to itself in the peritoneal cavity. This leads to the study of regeneration of the hepatic tissue, something which, particularly in past years, has been thoroughly studied by Kahn, who made many experiments on the livers of dogs. First, he noted that after the liver substance was decayed, it promptly took on adhesions with neighboring strictures, with the epiploon and the anterior wall of the stomach. He killed the animals from two to three months after operation. In every instance there was complete regeneration of the destroyed lobe.

These and analogous results have been noted by different experimenters, by Tizzoni, Collaci and Corona. But to Ponfich we are especially indebted for a full description of the histological phenomena following wounds and resection of liver tissue and its remarkable property in the way of regeneration. He discovered a rapid histological reformation, hypertrophy of the lobules, which were the seat of an active cellular hyperplasia. There was then an interposition of young hepatic cells. This cellular incorporation begun immediately after resection.

Floeck and Kahn confirmed these investigations. Kahn applied these studies to many distinctive lesions of the liver, as in cysts, where there is much local resorption of tissue, without any punctured disturbance; and in alcoholic cirrhosis, in which there has been great destruction of

the parenchymatous elements, and in which, under proper treatment, after a long interval, recovery may be complete.

—Revue de Chirurgie, Sept., 1898.

SOME OBSERVATIONS ON BRAIN ANATOMY AND BRAIN TUMORS—ABSTRACTS.

Dr. William C. Krauss, of Buffalo, read a paper at the ninety-second annual meeting of the Medical Society of the State of New York, Albany, January 25, 1898, with the above title.

He called attention (1) to the difficulty in remembering the gross anatomy of the brain, and (2) to the almost universal presence of optic neuritis in cases of brain tumor.

He attempted to overcome the difficulty in regard to the anatomy of the brain by formulating the following rules, which are somewhat unique and original, and at the same time easily remembered.

Rule of Two.—1. The nerve centres are divided into two great divisions, (1) encephalon, (2) myelon. 2. The encephalon is divided into two subdivisions, (1) cerebrum, (2) cerebellum. 3. The cerebrum, cerebellum and myelon are divided into two hemispheres each, (1) right, (2) left. 4. The encephalon is indented by two great fissures, (1) longitudinal, (2) transverse. 5. Into these two great fissures there dip two folds of the dura, (1) falx cerebri, (2) tentorium cerebelli. 6. There are two varieties of brain matter, (1) white, (2) gray.

Rule of Three.—1. There are three layers of membranes surrounding the brain (1) dura, (2) arachnoid, (3) pia. 2. Each hemisphere is indented by three major fissures, (1) sylvian, (2) rolandic or central, (3) parieto-occipital. 3. Three lobes, frontal, temporal and occipital, on their convex surface are divided into three convolutions each, superior, middle and inferior, or first, second and third. 4. There are three pairs of basal ganglia, (1) striata, (2) thalami, (3) quadrigemina. 5. The hemispheres of the brain are connected by three commissures, (1) anterior, (2) medi, (3) post-commissure. 6. The cerebellum consists of three portions, (1) right, (2) left hemisphere, (3) vermes. 7.

There are three pairs of cerebellar peduncles, (1) superior, (2) middle, (3) inferior. 8. The number of pairs of cranial nerves, in the classifications of Willis and Sommering, can be determined by adding three to the number of letters in each name; that of Willis making nine, and that of Sommering making twelve (or the name containing the more letters has the larger number of pairs of nerves, and vice versa). 9. The cortex of the cerebellum is divided into three layers of cells, (1) granular, (2) Pudkinje's cells, (3) a molecular layer.

Rule of Five.—1. Each hemisphere is divided externally into five lobes, of which four are visible, (1) frontal, (2) parietal, (3) temporal, (4) occipital, and one invisible, (5) insula (Isle of Reil). Roughly speaking, the visible lobes correspond to the bones of the cranium; that is, the frontal lobe is underneath the frontal bone, the parietal lobe beneath the parietal bone, etc. 2. The brain contains five ventricles, of which four are visible—the right and left, or first and second, the third and the fourth; and one invisible, the fifth or pseudo-ventricle. 3. The cortex of the brain contains five distinct layers of ganglion cells.

Studying carefully 100 cases of brain tumor, in which an ophthalmoscopic examination had been made for the presence or absence of choked disc (optic neuritis), Dr. Krauss announced the following conclusions:

1. Optic neuritis is present in about ninety per cent. of all cases of brain tumor.

2. It is more often present in cerebral than in cerebellar cases.

3. The location of the tumor exerts little influence over the appearance of the papillitis.

4. The size and nature of the tumor exert but little influence over the production of the papillitis.

5. Tumors of slow growth are less inclined to be accompanied with optic neuritis than those of rapid growth.

6. It is probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved.

7. It is doubtful whether increased intracranial pressure is solely and alone responsible for the production of an optic neuritis in cases of brain tumor.

—Philadelphia Medical Journal.

Miscellany.

IRON AND MANGANESE.

BY G. HOWARD THOMPSON, M. D.,
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The physician in active, general practice is called upon constantly to treat complications symptomatic of anemia. This condition of depravity of the blood may, in itself, be only a symptom, but must nevertheless be met and controlled as a symptom if it is incidental to an incurable disease. As an illustration, where it is caused by syphilis, specific treatment usually controls it; but where it is caused, for example, by valvular disease, heart stimulants are not so likely to control it as agents directed against the anemia itself, which improve the blood and

strengthen the muscular walls of the heart. Anemia is a condition of the blood characterized by a deficiency in the quantity of hemoglobin. Either the normal proportion of red blood cells is absent, or, being in normal amount, they are deficient in hemoglobin, as in what is called chlorosis. Normally, 230 grains, by weight, of red blood cells contain one grain, by weight, of iron, and for every 20 grains of iron one grain of manganese. This being the case, every case of anemia calls for an agent capable of increasing the hemoglobin in the blood, either by increasing the healthy red cells to the normal number of health, or by increasing to the normal amount the

deficiency of hemoglobin in the cells themselves, which, though in normal quantity, are lacking in this essential, or, as may possibly be the case, by increasing both the number of cells and their proportion of hemoglobin. Iron is a therapeutic agent capable of securing both of these results in most cases where it can be borne without producing untoward symptoms of its own. Where iron itself fails, the addition of manganese seldom fails to supply the missing requirement.

All of the potent United States Pharmacopoeia preparations of iron are liable to produce untoward effects in many patients, such as loss of appetite, diminished peristalsis, gastric distress, frontal headache, constipation and vesical irritation, etc., and as a result, without exerting a single beneficial influence on the anemic process. As iron is absorbed in the form of an albuminate or peptonate, the old preparations must, of necessity, be converted before they are assimilated, which taxes the powers of the stomach and intestinal tract. They are first converted into chlorides in the stomach and into sulphides in the duodenum, which results in a waste of almost the entire quantity taken, thus effectually defeating the purpose for which the remedy was prescribed.

In order successfully to treat the various complications incidental to the anemic state which may be caused by anemia, or which may cause this condition, it is necessary to employ a preparation of iron which will be absorbed beyond a doubt. Such a preparation has been brought to the profession in the form of liquor ferri et mangani pentonati (Lehn & Fink), a preparation of the peptonate of iron and manganese which I have found, after long and patient investigation, to possess all of the advantages and none of the disadvantages of the United States Pharmacopoeia official preparations. I began its use last fall, and have continued using it down to the date of this writing (July 15, 1898).

Case 1.—Was Mr. P., a student of medicine, who consulted me in great apprehension lest he had a chancre. His physical condition was one of

pronounced anemia, though I cannot state to what extent, as I did not estimate his red blood cells. On the inner surface foreskin was an induration of the nature of a soft chancre. I advised the use of simply a dry talcum powder twice daily, but ordered a tablespoonful of liquor ferri et mangani pentonati (L. & F.) every three hours, to see if his system would not develop the power to resist and throw off the local infection. I watched the patient carefully, inspecting him every day. The ulcer was arrested in about three days, and in three days more showed signs of healing, and at the end of three weeks was entirely cured. No eruption ever presented itself nor any indication of a specific infection. This patient improved in every way. His appetite improved, his lips and cheeks took on the ruddy hue of health, and he increased about ten pounds in weight.

Case 2.—Miss M. A. H., by profession an actress, consulted me in January for bronchitis. She presented a condition of profound anemia, though she had lost no weight. On interrogation she claimed to have been anemic for a year and a half, ever since she recovered from an attack of typhoid-pneumonia. She was subject to attacks of acute inflammatory rheumatism. Her heart was not involved organically. Examination of her blood showed, approximately, 2,800,000 red blood corpuscles to the cubic centimetre. Suitable treatment for her cough was immediately instituted, in addition to which liquor ferri et mangani peptonati (L. & F.) was prescribed in the dose of a tablespoonful after each meal. Within two weeks her cough was well, and an examination of her blood showed an increase in the number of red cells to 3,450,000. The iron and manganese was continued, and two weeks later another estimation of the red cells was made, showing a further increase to 3,950,000. The tonic was continued and examinations made at intervals of two weeks, each time showing a substantial increase over the previous counting, as follows: 4,240,000, 4,500,000, 4,800,000, 5,000,000, etc., beyond which the red cells did not

seem to increase. In the latter part of March the patient began neglecting her medicine, saying that she felt better than she had felt in many years, and sought an engagement in a local stock company. Her appearance no longer showed the least evidence that she had ever been anemic, and she looked the picture of health. I met her again recently (in June), and made two more estimations of her red cells, at intervals of two weeks, and found that there had been no substantial relapse, the figures being 4,940,000 and 5,000,000 per c. c., and she reported not having been sick in the meantime.

Case 3.—Miss K., aged 21, had been suffering from amenorrhea with leucorrhœa for three months. Her family history was good. No local examination was made, this being deferred to observe the effect of internal treatment. She was somewhat irregular with her menses and was very anemic, though otherwise of strong and robust build. She had lost no flesh and complained of no other symptoms. On February 3 I examined her blood and found, on estimation, about 3,400,000 per c. c., and immediately put her on liquor ferri et mangani peptonati (L. & F.), a tablespoonful an hour after each meal. She was due to menstruate on the 16th, having skipped the previous period with nothing more than ovarian neuralgia. On February 16 her menstruation set in and she experienced a substantial flow for two days. Just previous to this, on the 15th, an estimation of her blood cells indicated about 3,700,000 per c. c. Her bowels became more regular, her appetite improved, and her complexion looked healthier. On the 3d of March an examination showed 4,200,000 per c. c., and on the 15th, the day before her expected men-

struation, the estimation showed 4,450,000 per c. c. The next day her menstruation appeared and lasted four days with normal flow. Her health has been good ever since, and her menstruation regular and normal.

There is no doubt of the power of this preparation to rapidly increase the red blood cells and hemoglobin in cases of anemia and chlorosis. It has never, in my experience, caused constipation; on the contrary, when given for anemic conditions incidental to pelvic disease, the accompanying constipation has frequently been relieved without the additional use of laxatives. It has never caused headache or loss of appetite in any case that I have handled. It has always improved the appetite, restored lost color, increased strength and weight. Its taste is not objectionable, and patients readily acquire a liking for it. My best results have been obtained by the administration of a tablespoonful an hour after each meal.

—615 Century Building, St. Louis.

The following officers were elected at Nashville of the Mississippi Valley Medical Association:

President, Dr. Duncan Eve, Nashville, Tenn.; first vice president, Dr. A. J. Ochsner, Chicago, Ill.; second vice president, Dr. J. C. Morfit, St. Louis, Mo.; secretary, Dr. Henry E. Tuley, Louisville, Ky. (111 West Kentucky street); treasurer, Dr. Dudley S. Reynolds, Louisville, Ky.

Next place of meeting, Chicago.

Chairman of committee of arrangements, Dr. Harold N. Moyer.

Time of meeting, October, 1899; date to be determined by the executive officers and the chairman of the committee of arrangements.

